

## **REMARKS**

Claims 1-10 are pending in the application. Claims 1-10 are rejected. Claims have been amended. No new matter is introduced with these amendments.

### **Reply to the Rejection of Claim 1, 2 and 6 under 35 U.S.C. § 112, 2<sup>nd</sup> Paragraph**

The Examiner has rejected Claims 1, 2 and 6 as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Specifically, the Examiner states -

Claims 1, 2 and 6-7 provide for the use of, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1, 2 and 6 have been amended. It is believed that these amendments overcome the Examiner's rejection of those claims as being indefinite. Withdrawal, therefore, of the rejection of claims 1, 2 and 6 under 35 U.S.C. § 112, second paragraph is respectfully requested.

### **Reply to the Rejection of Claim 1, 2, 6 and 7 under 35 U.S.C. § 101**

The Examiner has rejected Claims 1, 2, 6 and 7 as not being proper process claims. Specifically, the Examiner states that "the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process".

Claims 1, 2, 6 and 7 have been amended. It is believed that these amendments overcome the Examiner's rejection of those claims as not being proper process claims. Withdrawal, therefore, of the rejection of claims 1, 2, 6 and 7 under 35 U.S.C. § 101 is respectfully requested.

### **Reply to the Rejection of Claims 1-10 under 35 U.S.C. § 103(a)**

The Examiner has rejected Claims 1-10 as being unpatentable over U.S. Patent No. 4,207,355 to Chiu *et al.* ("Chiu") in view of U.S. Patent No. 5,362,510 to Mizoguchi *et al.* ("Mizoguchi"). Specifically, the Examiner states -

Chiu *et al* disclose cold-water dispersible, gelling starches. The starches are prepared using converted/crosslinked starches. After the crosslinking reaction is

complete, the pH of the reaction mixture is adjusted to 5.5-6.5 and the crosslinked product be drum dried directly to obtain pregelatinized starch. Starch such as tapioca can be used. (See columns 2-3)

Chiu et al do not disclose the properties as claimed and using the starches in dough products and dough having the properties as claimed.

Mizoguchi et al disclose processed starch and its use in bakery foods prepared from dough. (See column 2)

While Chiu et al do not disclose the properties of the starch as claimed, the starch disclosed is prepared by the same process as disclosed in the instant specification; thus, it is obvious the starch will have the same properties as claimed. The specification discloses converted and crosslinked starches can be used. The pH of the starch is adjusted to within the level disclosed in the specification and the starch is then drum dried which is the same step disclosed in the specification. Chiu et al do not disclose using the starch in a dough; however, it is known in the art to use processed starch in dough products as shown by Mizoguchi et al. Thus, it would have been obvious to one skilled in the art to use the Chiu et al starch in dough products. When the Chiu et al starch is added to dough, it is obvious the dough will have the properties as claimed because the same starch is used. Since the starch has gelling property, it is obvious it can function as a binder because gelling agent is commonly used to bind food ingredients. It would also have been obvious to use any other starch including sago and potato when it is desired to transform such starches into cold-water dispersible, gelling starches.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 1-10 as being unpatentable over Chiu in view of Mizoguchi.

Referring to Chiu, therein is disclosed a cold water dispersible, modified gelling starch (Abstract). The starch is native tapioca starch that has been converted to a water fluidity ("WF") of form about 10 to about 63 (col. 2, lines 50-52). The tapioca starch is converted to its WF by degrading the starch, such as by mild acid hydrolysis or conversion by hydrogen peroxide or enzymatically (col. 2, line 58-66). After degrading the starch, it is crosslinked (col. 2, line 67 – col. 3, line 34). The pH of this degraded, crosslinked reaction mixture is then adjusted to 5.5-6.5 prior to drum drying the mixture (col. 3, lines 35-42). The dried mixture is then pulverized to a powder or flake product (col. 5, lines 62-68). This resultant instant gelling starch is particularly useful in food systems of the type that gel upon standing, such as pie fillings, jellies and puddings (Abstract; Examples IX – XI). As noted by the Examiner, Chiu does not teach or suggest the properties of the starch as claimed, nor does Chiu teach or suggest the use of its instant gelling starch in dough.

Mizoguchi teaches a processed starch that is useful as an ingredient for bakery foods (Abstract; col. 2, lines 35-66). The processed starch is up 8% in hot water solubility, and in the form of particles with less than 5% remains on 60 mesh sieve (col. 2, lines 24-31; col. 2, line 67 – col. 3, line 38). The starch used as the starting material is a modified, *i.e.*, crosslinked starch (col. 4, lines 54-68). This crosslinked starch is made into a 10 to 40% wt aqueous slurry, which is then heated to fully swell the granules of starch to a stabilized state (col. 5, lines 31-61). The device used for heating the starch can be an open cooking equipment, jet cooker or drum dryer, depending upon the product desired (col. 6, lines 13-20). The swollen, heated starch can be immediately cooled to obtain a paste product, frozen, or dried into a powder by drum drying, spray drying or freeze drying (col. 6, lines 34-40). The processed starch improves the moldability of dough (col. 6, line 55 – col. 7, line 8).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

As shown above, Chiu is directed instant gelling, cold water soluble starches that are useful in pie fillings, jellies and puddings. As noted by the Examiner, Chiu does not teach the use of its starch in dough, nor does Chiu teach or suggest the properties of the starch as claimed. The Examiner cites Mizoguchi as disclosing a processed starch useful in dough products. The starches of both Chiu and Mizoguchi are crosslinked, cold water swellable starches. Still, neither

Chiu nor Mizoguchi teach or suggest the properties of the starch as claimed. Accordingly, neither Chiu nor Mizoguchi, alone or in combination render the presently claimed invention obvious.

Further, according to the Examiner, it would have been obvious to one skilled in the art to use the instant gelling, crosslinked, cold water soluble starches of Chiu in dough products based on the teaching by Mizoguchi of the use of processed starch in dough products. Applicants respectfully disagree. Firstly, Chiu specifically states that its instant gelling starches are suited for use in pie fillings, jellies and puddings, and does not teach or suggest the use of its starch in the baked or fried snack products of the present invention. Accordingly, one skilled in the art would not be motivated to use the starches of Chiu in dough products based on the teachings of Mizoguchi.

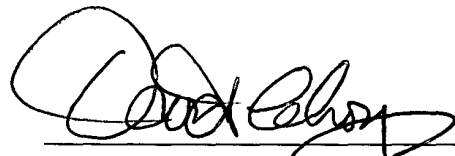
Secondly, Applicants respectfully direct the Examiner's attention to Example 4 and Graph 2 of the present application. Therein it is shown that crosslinked starches, such as those disclosed in both Chiu and Mizoguchi, do not perform as well as the starches of the present invention, nor do they fall within the claimed parameters. Therefore, even if one skilled in the art were to combine Chiu and Mizoguchi, one still would not have the starches of the presently claimed invention.

It is believed that these remarks overcome the Examiner's rejection of claims 1-10 as being unpatentable over Chiu in view of Mizoguchi under 35 U.S.C. § 103(a). Withdrawal of the rejection is respectfully requested.

It is believed that the above remarks overcome the Examiner's rejections of the claims under 35 U.S.C. §§ 112, second paragraph, 101 and 103(a) as indicated herein above. Withdrawal of the rejections is therefore respectfully requested. Allowance of the claims is believed to be in order, and such allowance is respectfully requested.

Dated: 10 April 2003

NATIONAL STARCH AND CHEMICAL  
COMPANY  
Post Office Box 6500  
Bridgewater, New Jersey 08807-0500  
Phone 908.683.5433  
Fax 908.707.3706

  
\_\_\_\_\_  
David P. LeCroy  
Attorney for Applicants  
Reg. No. 37,869